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ABSTRACT

This paper shares preliminary findings from a study of the development of leadership self-efficacy in the principals of a statewide middle-school network in the Midwest. The study was conceptualized to be carried out in three phases. As this paper was being written, the data collection for the first two phases had been completed, and preliminary analyses were being conducted. This paper is a work in progress that reflects some thinking out loud by the researcher as the study continues. The paper reports some of the preliminary findings and discusses how the findings may shape both the final phase of the study and future inquiry into the nature of principal leadership self-efficacy and the implementation of key reforms in middle-level schools. The study is examining the educational preparation, career path, and professional development of the principals; the leadership self-efficacy of the principals in relation to the major components of effective middle-level schools; the processes by which principals develop leadership self-efficacy specifically related to components of effective middle-level schools; and the process by which middle-school principal leadership self-efficacy engenders implementation of middle-level design components in the network's schools. (Author)

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April 22, 2003

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The Development and Impact of Principal Leadership Self-Efficacy in Middle Level Schools: Beginning an Inquiry

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The Development and Impact of Principal Leadership Self-Efficacy in Middle Level Schools: Beginning an Inquiry

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This paper shares some preliminary findings from a study of the development of leadership self-efficacy in the principals of a state-wide middle school network located in the Midwestern United States. The study was conceptualized to be carried out in three distinct phases and, as this paper is being written, the data collection for the first two phases has been completed and preliminary analyses are being conducted. In many ways this paper is a "work in progress" that reflects some "thinking out loud" that the researcher is doing even as the study continues. The paper, then, will report some of the preliminary findings, then discuss how the findings may shape both the final phase of the present study and future inquiry into the nature of principal leadership self-efficacy and the implementation of key reforms in middle level schools.

Set within Bandura's (1997) framework of triadic reciprocal causation and the most current conceptualization of effective middle level education (Jackson & Davis, 2000), this study is examining:

- The educational preparation, career path, and professional development of the network's principals;
- The leadership self-efficacy of the principals in relation to the major components of effective middle-level schools;
- Teacher-reported levels of implementation of components of effective middle level practice in the network's schools;
- The processes by which principals develop leadership self-efficacy specifically related to components of effective middle level schools; and
- The processes by which middle school principal leadership self-efficacy engenders implementation of middle level design components in the network's schools.

The Study's Contexts

The Middle School Principalship

Research in the field of education has repeatedly established that the most important individual in high-achieving schools is the principal (Jackson & Davis, 2000). The degree to which a school is equipped to face challenges and seize opportunities is determined to a great extent by the knowledge, insight, commitment, and leadership possessed and exercised by the person at the heart of the organization—the principal (Valentine, Clark, Hackmann, & Petzko, 2002). Schools principals of the twenty-first century must be transformational change agents who are expert in both the core technology of the school—teaching and learning—and in the shaping of the organization through collaborative leadership and decision making (Clark & Clark, 1994). Because exemplary principals are those who develop and maintain high-quality relationships with the entire school community (Bolman & Deal, 1993), the continuing

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development of principals positively impacts all aspects of school culture, structure, and instructional programs (Norton, 2000).

The principal's position and importance in the middle school means that he or she has the most potential to initiate and sustain improvement in academic and other areas of student performance and achievement (Jackson & Davis, 2000). This is because both the theoretical and empirical literature concerned with middle level reform hold that the multifaceted initiatives contained in the reforms require integrated implementation over an extended period of time. The multiple elements of middle level reform are intended to address, in a developmentally appropriate way, the academic, affective, and social needs of early adolescents in a way that leads to broad, positive outcomes (Erb, 2001). The most extensive empirical examinations of the results of reform measure implementation have shown, indeed, that students—including students at-risk for failure—experience significantly positive academic and affective advantages from integrated, long-term implementation efforts (Felner, Jackson, Kasak, Mulhall, Brand, & Flowers, 1997). Obviously, because middle schools are large and complex organizations, the role of principal leadership is critical in initiating and sustaining such reforms; thus, principals must possess steady commitment to the vision of the school, as well as the ability to develop and maintain a school culture favorable to continuous improvement (Clark & Clark, 2000).

In order to facilitate the vision and process of developmentally appropriate middle level education, middle school principals should be experts in early adolescent education. They should not only be conversant with the historical and philosophical underpinnings of middle level education, but also have a clear picture of the potential of effective middle schools (Clark & Clark, 1994). Ideally, of course, middle level principals should have extensive formal education and professional development experiences that specifically address the developmental needs of early adolescents, as well as the organizational implications for the schools that educate them (Carnegie Task Force on Education of Young Adolescents, 1989; Jackson & Davis, 2000; NASSP Council on Middle Level Education, 1985). Most often this expertise is found in middle level leaders who have made the conscious choice to become principals in schools that serve early adolescents (Erb, 2001).

School leaders in general find themselves facing increasingly complex and contradictory demands; political, social, economic, and demographic challenges are creating problems, crises, and opportunities heretofore unknown (Murphy & Beck, 1994). The past twenty years in particular have seen the rise of a "manufactured crisis" (Berliner & Biddle, 1995) engendered by business, political, educational, and media leaders eager to transform the school enterprise through a "conservative restoration" (Beane, 2001). Middle schools in particular are vulnerable to this movement, as they have been on the forefront of a more holistic, student-centered conception of education. Because the middle school movement of the past forty years has sought to lead the way in providing more knowledge to more students through heterogeneous grouping, integrated curriculum, instructional methods responsive to diverse learning styles, and the celebration of cultural diversity, it seems most particularly at odds with the current standards, accountability, and testing movement sweeping the nation (Beane, 2001). Thus, middle school principals in particular are situated in an educational movement characterized by innovation (i.e., the middle school movement) as well as a political and social context characterized by demands for standardization and accountability. Research about effective leadership practices within these seemingly conflicting contexts is obviously called for (Valentine, Trimble, & Whitaker, 1997).

Effective middle level principals are key for developmentally appropriate middle schools; the current political climate (i.e., of standards, testing, and accountability) makes that role even more critical. However, the most recent large-scale study of the nature of the middle level principalship shows that its current state is fragile, at best. For instance, in 2000:

- 50% of middle level principals were fifty years or older, but only 34% were that old in a 1992 study.
- 34% of middle level principals had ten or more total years of experience as a principals, but 44% had at least that much experience in 1992; in 2000, 23% had ten or more years experience as a middle level principal, while 38% were in their first three years as a middle level principal.
- 62% of middle level principals expected to leave their current principalship with three to five years; 52% of the principals expected to leave the middle level principalship entirely with those three to five years.
- Less than 1% of middle level principals had completed an undergraduate major in middle level education; 7% had completed a master's degree in middle level education; only 29% of middle level principals had completed three or more graduate level courses in middle level or early adolescent education.
- 20% of middle level principals had no experience at the middle level prior to becoming a principal; only 4% held a middle level-specific administrative certification.
- Principals felt that their top priority should be the development of middle schools programs, but in terms of actual time spent on activities, program development came in fifth of nine choices (Valentine, Clark, Hackmann, & Petzko, 2002).

While the middle level movement appears to be somewhat vulnerable on the political front, it is becoming increasingly robust on the philosophical front. The publication of *Turning points 2000: Educating Adolescents in the 21st century* (Jackson & Davis, 2000) represented a significant affirmation and reconceptualization of the multiple elements of middle level reform. It is likely that this work will serve as the major structure for both middle level practice and research for the foreseeable future. In exploring both the theoretical and empirical middle level literature, *Turning Points 2000* has developed a seven-fold framework of recommendations:

- Teach a curriculum grounded in rigorous, public academic standards for what students should know and be able to do, relevant to the concerns of adolescents and based on how students learn best.
- Use instructional methods designed to prepare all students to achieve higher standards and become lifelong learners.
- Staff middle grades schools with teachers who are expert at teaching young adolescents and engage teachers in ongoing, targeted professional development opportunities.
- Organize relationships for learning to create a climate of intellectual development and a caring community of shared educational purpose.
- Govern democratically, through direct or representative participation by all school staff members, the adults who know students best.

- Provide a safe and health school environment as part of improving academic performance and developing caring and ethical citizens.
- Involve parents and communities in supporting student learning and healthy development (Jackson & Davis, 2000).

The framework of *Turning Points 2000* (Jackson & Davis, 2000) has much potential for both productive practice and research. The middle level movement as a whole, however, is faced with a political environment that is antithetical to many of its key tenets and practices (Beane, 2001). In addition, the movement has historically been faced with a gap between what is espoused (and has been shown, at least on small scales) to work well for early adolescents, and what has been put into practice on a large scale; the middle school is currently experiencing "arrested development" (Dickinson, 2001). Given the strong evidence that effective principal leadership is critical at all levels of schooling, it is curious that only primarily demographic and descriptive studies of the middle level principalship have been conductive. Some works (e.g., McEwin, Dickinson, & Jenkins, 1996) provide comprehensive overviews of the progress of middle level practices but do not pointedly focus on middle level leadership. Other works that do focus on the middle school principalship (e.g., Weller, 1999) are really about generic principal leadership that happens to take place at middle schools. In one of the few recent studies that specifically examines the middle level principalship, the researchers acknowledge that both the knowledge and experience bases of today's middle school principals are lacking, and that this lack portends ineffective middle level educational programs and practices for the future (Anfara, Brown, Mills, Harman, & Mahar, 2001). Clearly, then, there is a need for research that discovers how principals become effective leaders *specifically for middle schools*.

Leadership Self-Efficacy

This study aims at discovering how principals become effective leaders specifically for middle schools by employing Bandura's (1997) model of triadic reciprocal causation, specifically in relation to the development of leadership self-efficacy. Bandura's model posits that behavior, internal personal factors, and the environment influence each other bidirectionally. Set within the larger context of social cognitive theory, Bandura's model helps develop understanding about how individuals adapt and act within organizational settings, such as schools. Self-efficacy, as defined by Bandura, is "a generative capability in which cognitive, social, emotional, and behavioral subskills must be organized and effectively orchestrated to serve innumerable purposes....Self-referent thought activates cognitive, motivational, and affective processes that govern the translation of knowledge and abilities into proficient action" (Bandura, 1997, pp. 36-37). Higher levels of self-efficacy enable individuals to master increasingly difficult tasks. This study, then, is trying to discover how middle school principals, faced with the difficulties enumerated above, develop self-efficacy in regard to the leadership ability needed by the schools they serve.

Bandura's (1997) model holds that self-efficacy develops as the result of previous experience that is reflected upon thoughtfully. These experiences include enactive master events, vicarious learning, social influences, and the feedback obtained from physiological and affective states. As individuals go through these experiences, then reflect upon them, they make judgments and come to conclusions about their ability to engage in certain behaviors. This study seeks to understand the experiential backgrounds of the participating principals, as well as how

their reflective thinking has contributed to their current sense of middle school leadership self-efficacy.

The sense of self-efficacy that an individual possesses influences his or her decisions about the behaviors in which he or she will engage. Cognitive, motivational, affective, and selective processes work to transform the individual's self-efficacy into action (i.e., attempts to influence the individual's environment). Organizational leaders make many complex choices in this regard because of the multifaceted nature of information, analysis, decision making, and outcomes at the organizational level (Bandura, 1997). This study seeks to understand how principals at varying levels of self-efficacy attempt to engage in leadership behaviors aimed at engendering specific middle level program characteristics in their school organizations.

Bandura (1997) states that the measurement of self-efficacy has three dimensions: level, generality, and strength, and that the most effective and predictive use of self-efficacy measurement occurs when the domains of self-efficacy are particularized. Because self-efficacy is concerned primarily with ability, rather than motivation, interview and survey protocols should employ "can do" rather than "will do" questions and prompts. Because the usefulness of self-efficacy assessment relies primarily on construct validity, it is important to be sure that the domains being evaluated are solidly placed in the field being studied. This study does this by particularizing middle school leadership self-efficacy in terms of the most current conceptualization of middle level education, *Turning Points 2000* (Jackson & Davis, 2000).

Finally, at the outset of the study, a search of the research literature yielded four journal articles that focused directly on school principal self-efficacy. Osterman and Sullivan (1996) found that external factors such as role models, district expectations, and personal and organization support influenced principals' sense of self-efficacy, which in turn affected the principals' interpretation of organizational content and problem-solving processes. Dimmock and Hattie (1996) established that principal self-efficacy can be a powerful mediator in understanding reactions to school change. Licklider and Niska (1993) determined that principals who participate in a focused professional development program can improve their sense of self-efficacy in relation to the supervision of teachers. Finally, Imants and DeBrabander (1996) found that self-efficacy may be an important factor in explaining the underrepresentation of women in school leadership positions.

Method

Data collection

Phase one. In the study's first phase, during fall 2002, all 141 principals of the middle school network were mailed a questionnaire designed to gather the following information:

- School characteristics: grade levels, total enrollment, proportion of students receiving free or reduced lunches, number of teachers on the faculty.
- Principal demographics: gender, age, and ethnicity.
- Principal education: year of graduation, major, minor, and institution for bachelor's, master's, educational specialist/advanced certificate, and doctoral degrees; number of undergraduate and graduate courses related to middle level or early adolescent education.

- Principal certification: subjects, grade levels, middle level endorsement, administrative and other non-teaching certification, and year of completion.
- Principal's professional experience: beginning and ending dates for each full-time certificated position held in a school or school district, along with the grade levels served by the school or school district.
- Principal's leadership self-efficacy: a self-rating on a ten-point scale of the principal's current ability to provide effective leadership in each of the seven major design components of the framework established in *Turning Points 2000* (Jackson & Davis, 2000).

Of the network's 141 principals, 89 (63%) responded to either the initial mailing or one of the two follow-up mailings with a completed, usable questionnaire.

Phase two. Each of the 89 principals who completed and returned the questionnaire was mailed a packet containing surveys for his or her teachers to complete during winter 2003. These surveys were designed to assess the degree to which the major design components from *Turning Points 2000* (Jackson & Davis, 2000) were being implemented in the schools. For each of the seven components, nine items were developed that reflected that major ideas contained with that component; thus, a total of 63 items were developed. Teachers could respond to each item on a four-point Likert scale with the following choices: "strongly disagree," "disagree," "agree," and "strongly agree." The survey also collected information regarding each teacher's total number of years of teaching experience, years of teaching experience at the middle level, and years of teaching at their current school. Of the 89 principals who received packets of surveys for their school's teachers, 74 (83%) returned completed surveys; a total of 2356 teachers (an average of 31.8 per school) completed surveys. The completion rate for the teacher surveys (of a possible 3316 surveys in the 74 schools) was 71%.

Phase three. Each principal who returned the packet of completed teacher surveys was mailed a letter to ascertain their willingness and availability for structured interviews. As this paper is being written, the interviews for this phase are being scheduled, and will be conducted at the school sites of the participating principals during the late spring and early summer of 2003.

Analyses

For the purposes of reporting preliminary findings in this paper and shaping the data collection to be done in the interview phase of the study, several analyses are being performed. From the principal questionnaire (phase one), descriptive statistics were generated for school characteristics, principal demographics, and principal leadership self-efficacy. Additionally, the number of years of middle level experience was calculated based upon the information each principal provided in listing his or her full-time positions in certificated positions in schools.

From the teacher survey (phase two), descriptive statistics were generated for each of the three items related to total teaching and middle level teaching experience, as well as the number of years at the current school. Descriptive statistics for the 63 items (nine in each of seven areas) developed from the recommendations of *Turning Points 2000* (Jackson & Davis, 2000) were also generated. Additionally, the nine items within each of the seven sets were averaged to produce a perceived level of implementation score for each teacher for each recommendation. In turn, the seven implementation scores were averaged to produce a score reflective of each teacher's perception of the total implementation of the recommendations. Finally, each of the

recommendation and total implementation scores were averaged for each school to yield a school-level set of implementations scores for each of the seven recommendation areas as well as a total implementation score.

Finally, a number of correlative analyses are being conducted to determine if any relationships existed among school characteristics, principal demographics, education, professional experience, leadership self-efficacy, and implementation scores for the seven recommendation areas. These analyses are being conducted to determine if there are any expected (or unexpected) relationships among these measures that might be explored in more depth and detail during the upcoming interview phase of the study.

Preliminary Results

The preliminary results being reported in this section are based on the data returned by the schools that participated in the first two phases of the study, i.e., completed both the principal's questionnaire and the teacher's survey. A total of 74 of the network's 141 schools (52%) completed both of the first two phases.

Descriptive analyses

School characteristics. Of the 74 schools, 78% contained grades 6, 7, and 8, 18% contained grades 7 and 8, and 4% contained grades 5, 6, 7, and 8. School enrollment ranged from 204 students to 1291 students, with a mean of 611 students. The average percentage of students eligible for free or reduced lunches was 34%, with a range from 0% to 97%. The average number of teachers per school was 45, with a minimum of 16 and a maximum of 85.

Principal demographics and education. Principals ranged in age from 30 to 65 years, with a mean of 47.5 years. 84% of the principals were Caucasian, 10% were African-American, 5% were Hispanic, and 1% was Caucasian-Hispanic. 64% of the principals were male, and 36% were female. Three of the 74 principals did not report their educational preparation; of the remaining 71 principals, all reported holding both bachelor's and master's degrees; the average date of completion for bachelor's degrees was 1977, and for master's degrees was 1986. Of the 71 reporting principals, 30% held either educational specialist or advanced certificate degrees, with the average date of completion of 1994; 17% held doctoral degrees, with the average date of completion being 1997. The mean number of completed undergraduate courses focused on middle level or early adolescent education was 1.7, with minimum of 0 and a maximum of 12. At the graduate level, the mean number of similar courses completed was 1.2, with a minimum of 0 and a maximum of 10.

Principal tenure, experience, and middle level experience. Principals in the 74 schools had served a mean of 5.62 years in their current positions, with the reported number of years ranging from one to twenty. The mean number of years of experience in education was 23.9 years, with the reported number of years ranging from 2 to 38. Using data reported by the principals, "years of middle level experience" was calculated by determining what proportion of each organizational setting (e.g., school or school district) in which the principal had served consisted of middle grades as defined by the middle level network, i.e., grades four through eight. For example, for each year that a participant served as a principal in a K-8 building, he or she would be credited with .56 years of middle level experience (five years divided by nine years). Using this formula, the total years of middle level experience was calculated by

summing the middle level experience for each position held throughout the principal's career. For the 74 participants, the mean number of years of middle level experience was 15.9 years, with a minimum of 1 year and a maximum of 32.9 years. The descriptive statistics for principal demographics, education, tenure, experience, and middle level experience are summarized in Table 1.

Table 1
Descriptive statistics for participating principals and their schools (n = 74)

	Minimum	Maximum	Mean	Standard Deviation
Age	30	65	47.5	7.2
Undergraduate middle level courses	0	12	1.7	2.7
Graduate middle level courses	0	10	1.2	1.8
Tenure at present school (years)	1	20	5.6	4.7
Total educational experience	2	38	23.9	7.4
Total middle level experience	1	32.9	15.9	7.8
School enrollment	204	1291	611	257
Percent free/reduced lunch students	0	97	34	27.7
Number of school faculty	16	85	44.8	17.8

Principal leadership self-efficacy. Tables 2 (p. 10) and 3 (p. 11) summarize the principals' responses to the items which asked them to rate the level (on a scale of 1 to 10) of their current ability to provide effective leadership in each of the seven recommendation areas of *Turning Points 2000* (Jackson & Davis, 2000), as well as their overall ability to provide leadership for the implementation of effective middle level practices. Within the seven recommendations areas, the highest mean reported level of leadership self-efficacy was in "healthy school environment," followed (in descending order) by "faculty staffing and professional development," "collaborative leadership practices," "organizational practices for relationships," "instructional practices," "standards, curriculum, and assessment," and "involving families and the community."

Teacher perceptions of implementation of recommendations. Table 4 (p. 11) summarizes the teachers' responses (aggregated within the seven recommendation areas and at the school level) to the items which asked them to rate the degree to which they perceived that recommendations from *Turning Points 2000* (Jackson & Davis, 2000) were currently being implemented at their schools. Within the seven recommendations areas, the highest mean of perceived implementation was in "standards, curriculum, and assessment practices," followed in descending order by "instructional practices," "organizational practices for relationships," "collaborative leadership practices," "healthy school environment," "faculty staffing and professional development," and "involving families and community."

Correlative analyses

A number of correlative analyses were conducted to determine relationships, first, between school characteristics and, respectively, principal leadership self-efficacy and *Turning Points 2000* implementation. Next, correlative analyses were conducted to determine

Table 2
Descriptive statistics for principal leadership self-efficacy (1 = very low, 10 = very high) (n = 74)

Recommendation area	Minimum	Maximum	Mean	Standard Deviation
Implementation of standards, curriculum, and assessment practices that lead to improved student learning.	5	10	7.89	1.28
Instructional practices that that help all students to learn the curriculum, do well on assessments, and explore their interests.	5	10	8.00	1.01
Faculty staffing and professional development practices that enable teachers to help early adolescent students succeed academically and socially.	5	10	8.15	1.14
Implementing organizational practices (such as teaming and advisory programs) that enable students to have quality relationships with both their peers and with the school's adults.	4	10	8.05	1.45
Authentically collaborative leadership practices, including the development of a school-wide vision and improvement plan that has broad faculty support.	5	10	8.12	1.12
A healthy school environment that ensures that each student is physically and psychologically safe, knows and practices healthy living, and has access to a wide range of school and community-based health services.	3	10	8.27	1.35
Proactively involving families and the community in the life of the school, as well as developing opportunities for students to become involved in the community surrounding the school.	3	10	7.26	1.73
Overall implementation of middle level practices at your school.	3	10	8.42	1.29

Table 3
Distribution (in percent) of principal leadership self-efficacy ratings (1 = very low, 10 = very high) (n = 74)

Recommendation area	Principal leadership self-efficacy rating									
	1	2	3	4	5	6	7	8	9	10
Standards, curriculum, assessment	0	0	0	0	3	14	18	37	18	12
Instructional practices	0	0	0	0	1	5	19	47	20	7
Faculty staffing and professional development	0	0	0	0	3	7	11	41	29	10
Organizational practices for relationships	0	0	0	3	4	7	14	34	23	16
Collaborative leadership practices	0	0	0	0	3	4	19	37	28	10
Healthy school environment	0	0	1	0	1	6	17	25	32	17
Involving families and the community	0	0	4	1	11	11	24	20	20	7
Overall implementation of middle level practices	0	0	1	0	1	3	11	35	28	21

Table 4
Teachers' perceptions of the degree to which recommendations from *Turning Points 2000* are implemented in their school (aggregated within recommendation areas and at the school level (1 = strongly disagree, 2 = disagree, 3 = agree, 4 = strongly agree) (n = 74)

Recommendation area	Minimum	Maximum	Mean	Standard Deviation
Standards, curriculum, assessment	2.56	3.59	3.12	0.20
Instructional practices	2.56	3.54	3.06	0.19
Faculty staffing and professional development	2.19	3.34	2.87	0.22
Organizational practices for relationships	2.03	3.41	3.04	0.26
Collaborative leadership practices	2.06	3.51	3.00	0.27
Healthy school environment	2.17	3.36	2.89	0.25
Involving families and the community	1.98	3.42	2.78	0.24
Overall implementation of middle level practices	2.29	3.41	2.97	0.21

relationships between principal demographics (age, number of years in current principalship, total years of educational experience, and years of middle level experience) and, respectively, principal leadership self-efficacy and *Turning Points 2000* implementation. Finally, correlative analyses were conducted to determine relationships between principal leadership self-efficacy and *Turning Points 2000* implementation. All correlative analyses were conducted with the data aggregated at the school level (n = 74).

School characteristics. Correlations were calculated between the school characteristic variables and the principals' reported level of leadership self-efficacy in relation to the *Turning Points 2000* recommendations (Table 5, p. 12). Significant positive correlations were found between school enrollment and principal leadership self-efficacy in "faculty staffing and

Table 5
Correlations between school characteristics and principals' reported level of leadership self-efficacy (n = 74)

Recommendation area	School Enrollment	Size of Teaching Faculty	% of Students Receiving Free or Reduced Lunch
Standards, curriculum, assessment	$r = .11$ $p = .31$	$r = .08$ $p = .49$	$r = -.02$ $p = .85$
Instructional practices	$r = .06$ $p = .55$	$r = -.03$ $p = .81$	$r = .13$ $p = .25$
Faculty staffing and professional development	$r = .22$* $p = .04$	$r = .15$ $p = .17$	$r = .26$* $p = .02$
Organizational practices for relationships	$r = .12$ $p = .25$	$r = .14$ $p = .19$	$r = .05$ $p = .66$
Collaborative leadership practices	$r = .24$* $p = .02$	$r = .24$* $p = .03$	$r = .09$ $p = .41$
Healthy school environment	$r = .11$ $p = .32$	$r = .03$ $p = .78$	$r = -.03$ $p = .78$
Involving families and the community	$r = .25$* $p = .02$	$r = .22$* $p = .05$	$r = -.04$ $p < .74$
Overall implementation of middle level practices	$r = .10$ $p = .35$	$r = .10$ $p = .36$	$r = .04$ $p = .78$

*Significant at $p < .05$.

professional development" ($r = .22$, $p < .05$), "collaborative leadership practices" ($r = .24$, $p < .05$), and "involving families and the community" ($r = .25$, $p < .05$). Significant positive correlations were also found between the size of the teaching faculty and principal leadership self-efficacy in "collaborative leadership practices" ($r = .24$, $p < .05$) and "involving families and the community" ($r = .22$, $p < .05$). And, a significant positive correlation was found between the percentage of students receiving free or reduced lunch and principal leadership self-efficacy in "faculty staffing and professional development" ($r = .26$, $p < .05$).

Correlations were also calculated between the school characteristic variables (enrollment, number of teachers, and percent of students receiving free or reduced lunch) and the teacher-perceived levels of implementation of the *Turning Points 2000* recommendations (Table 6, p. 13). There were no significant correlative relations between school enrollment and implementation nor between the number of teachers on the faculty and implementation. Statistically significant negative correlations were found between the percentage of students receiving free or reduced lunch and the implementation of "healthy school environment" ($r = -.34$, $p < .01$) and "involving parents and community" ($r = -.31$, $p < .01$).

Principal demographics. Correlations were calculated between principal demographic characteristics (age, number of years in current principalship, total years of educational experience, and years of middle level experience) and principal leadership self-efficacy in

Table 6
Correlations between school characteristics and *Turning Points 2000* implementation (n = 74)

Recommendation area	School Enrollment	Size of Teaching Faculty	% of Students Receiving Free or Reduced Lunch
Standards, curriculum, assessment	r = -.11 p = .34	r = .04 p = .73	r = -.18 p = .12
Instructional practices	r = -.02 p = .87	r = .16 p = .19	r = -.16 p = .17
Faculty staffing and professional development	r = .03 p = .83	r = .17 p = .16	r = -.04 p = .75
Organizational practices for relationships	r = .08 p = .50	r = .15 p = .21	r = -.07 p = .57
Collaborative leadership practices	r = -.06 p = .61	r = .06 p = .62	r = -.19 p = .11
Healthy school environment	r = .00 p = .99	r = .09 p = .44	r = -.34** p = .003
Involving families and the community	r = .08 p = .51	r = .19 p = .11	r = -.31** p = .007
Overall implementation of middle level practices	r = .00 p = .99	r = .14 p = .24	r = -.21 p = .08

** Significant at $p < .01$.

relation to the *Turning Points 2000* recommendations (Table 7, p. 14)). Significant positive correlations were found between principal age and leadership self-efficacy for "faculty staffing and professional development" (r = .24, p = .03), "organizational practices for relationships" (r = .23, p = .04), and "overall implementation of middle level practices" (r = .24, p = .03). No significant correlations were found between numbers of years in current principalship, total years of educational experience, years of middle level experience, and any of the areas of principal leadership self-efficacy.

Correlations were also calculated between principal demographic characteristics (age, number of years in current principalship, total years of educational experience, and years of middle level experience) and the teacher-perceived levels of implementation of the *Turning Points 2000* recommendations (Table 8, p. 15). No significant correlations were found between any principal demographic characteristics and the teacher-perceived levels of implementation.

Principal leadership self-efficacy and Turning Points 2000 implementation. Finally, correlations were calculated between the principal-reported levels of leadership self-efficacy and the corresponding teacher-perceived levels of implementation of the *Turning Points 2000* recommendations (Table 9, p. 15). Significant positive correlations were found between principal leadership self-efficacy and implementation in "standards, curriculum, and assessment" (r = .26, p = .03) and "overall implementation of middle level practices" (r = .24, p = .04).

Table 7
Correlations between principal demographics and principal leadership self-efficacy (n= 74)

Recommendation area	Age	Years in current principalship	Total educational experience	Middle level experience
Standards, curriculum, assessment	$r = .09$ $p = .44$	$r = -.06$ $p = .56$	$r = .00$ $p = 1.00$	$r = -.02$ $p = .85$
Instructional practices	$r = .06$ $p = .62$	$r = -.15$ $p = .18$	$r = .00$ $p = 1.00$	$r = -.12$ $p = .29$
Faculty staffing and professional development	$r = .24$* $p = .03$	$r = .02$ $p = .85$	$r = .14$ $p = .21$	$r = .13$ $p = .25$
Organizational practices for relationships	$r = .23$* $p = .04$	$r = .19$ $p = .07$	$r = .16$ $p = .15$	$r = .12$ $p = .28$
Collaborative leadership practices	$r = .19$ $p = .09$	$r = .08$ $p = .45$	$r = .15$ $p = .17$	$r = -.01$ $p = .97$
Healthy school environment	$r = .16$ $p = .15$	$r = .06$ $p = .56$	$r = .05$ $p = .64$	$r = -.08$ $p = .49$
Involving families and the community	$r = .05$ $p = .65$	$r = -.04$ $p = .72$	$r = .05$ $p = .66$	$r = -.06$ $p = .59$
Overall implementation of middle level practices	$r = .24$* $p = .03$	$r = .17$ $p = .11$	$r = .13$ $p = .25$	$r = .16$ $p = .15$

*Significant at $p < .05$.

Discussion and Further Questions

In general, the descriptive analyses of both school characteristics and principal demographics revealed that the 74 participating schools and principals mirrored the findings of the most recent national survey of middle level schools and principals (Valentine, Clark, Hackmann, & Petzko, 2002). The "average" or "typical" school in this study was a grades 6-7-8 building that had 45 teachers and an enrollment of just over 600 students, 34% of whom were eligible for free or reduced lunch status. An examination of the geographic locations of the schools indicated that the distribution of the schools among urban, suburban, and rural locales was not noticeably different than that of the statewide network of 141 schools. The "typical" principal was a white male of about 47 years of age with 24 years of experience in education, 16 of those years at the middle level, and about 5.5 years tenure in the principalship of the school. The typical principal had taken just under a total of three courses (undergraduate and graduate combined) that focused on early adolescent or middle level education.

Turning to the focus of this multi-part study, it is informative to first compare the rank orders of principal leadership self-efficacy and teacher-perceived implementation levels for the seven recommendation areas of *Turning Points 2000* (Jackson & Davis, 2000). For instance, while principals considered themselves capable of providing the most efficacious leadership in the area of "healthy school environment," teachers perceived that this recommendation area was only fifth in rank order of implementation. Conversely, while teachers perceived that the recommendations regarding "standards, curriculum, and assessment" were being implemented at the highest levels, principals considered that their leadership self-efficacy in this area was the

Table 8

Correlations between principal principal demographics and *Turning Points 2000* implementation

Recommendation area	Age n = 71	Years in current principalship n = 74	Total educational experience n = 72	Middle level experience n = 72
Standards, curriculum, assessment	$r = -.01$ $p = .96$	$r = .15$ $p = .19$	$r = .06$ $p = .60$	$r = .01$ $p = .96$
Instructional practices	$r = .03$ $p = .81$	$r = .17$ $p = .14$	$r = .11$ $p = .35$	$r = .04$ $p = .74$
Faculty staffing and professional development	$r = -.01$ $p = .91$	$r = .15$ $p = .19$	$r = .08$ $p = .52$	$r = .07$ $p = .57$
Organizational practices for relationships	$r = .04$ $p = .73$	$r = .20$ $p = .10$	$r = .05$ $p = .68$	$r = .09$ $p = .45$
Collaborative leadership practices	$r = -.05$ $p = .66$	$r = .11$ $p = .35$	$r = -.01$ $p = .94$	$r = -.01$ $p = .97$
Healthy school environment	$r = -.08$ $p = .53$	$r = .09$ $p = .46$	$r = -.06$ $p = .60$	$r = .01$ $p = .90$
Involving families and the community	$r = -.10$ $p = .39$	$r = .08$ $p = .49$	$r = -.03$ $p = .82$	$r = -.01$ $p = .93$
Overall implementation of middle level practices	$r = -.02$ $p = .87$	$r = .17$ $p = .15$	$r = .04$ $p = .72$	$r = .04$ $p = .72$

Table 9

Correlations between principal leadership self-efficacy and teacher-perceived implementation of *Turning Points 2000* recommendations (n = 74)

Recommendation area	n	*r*	*p*
Standards, curriculum, assessment	74	.26*	.03
Instructional practices	74	.10	.39
Faculty staffing and professional development	73	.08	.51
Organizational practices for relationships	74	.16	.16
Collaborative leadership practices	74	.07	.57
Healthy school environment	71	.07	.57
Involving families and the community	70	.03	.79
Overall implementation of middle level practices	72	.24*	.04

*Significant at $p < .05$

second lowest among the seven. In only one area of recommendations ("involving parents and community") was there complete congruence between the rank orders of principal leadership self-efficacy and teacher-perceived implementation levels—both principals and teachers ranked this area at the bottom. An examination of Table 10 (p. 16) further reveals that only "collaborative leadership practices" and "organizational practices for relationships" were within

Table 10

Comparison of rank order of principal leadership self-efficacy and teacher-perceived implementation of *Turning Points 2000* recommendations.

Order	Principal Leadership Self-Efficacy	Teacher-Perceived Implementation Level
1 (highest)	Healthy school environment	Standards, curriculum, and assessment
2	Faculty staffing and professional development	Instructional practices
3	Collaborative leadership practices	Organizational practices for relationships
4	Organizational practices for relationships	Collaborative leadership practices
5	Instructional practices	Healthy school environment
6	Standards, curriculum, and assessment	Faculty staffing and professional development
7 (lowest)	Involving families and the community	Involving families and the community

one rank-order of each other, and that all other recommendation areas were three ("instructional practices"), four ("healthy school environment," "faculty staffing and professional development") or five ("standards, curriculum, and assessment") rank orders apart. Clearly, in terms of comparative rank orders, there is a lack of overall congruence between principal leadership self-efficacy and teacher-perceived implementation levels.

Next, it is interesting to note that the preliminary correlative analyses confirm the lack of congruence revealed in the comparison of rank orders. In only one recommendation area—"standards, curriculum, and assessment"—was there a statistically significant relationship to be found. What is puzzling, however, is that this positive correlation ($r = .26$) was found in the very area in which the greatest discrepancy was found in the comparative rank orders of principal leadership self-efficacy and teacher-perceived implementation levels. Additionally, a significant positive correlation ($r = .24$) was found between the principals' leadership self-efficacy ratings and the teachers' perceived ratings for overall implementation of the recommendations. This, too, is puzzling in light of the lack of congruence within the seven specific recommendation areas.

These puzzling results have caused the researcher to begin thinking about how some of the significant correlational relationships revealed among school characteristics, principal demographics, principal leadership self-efficacy, and teacher-perceived implementation levels might be informative in shaping the final (interview) phase of the study. For instance:

- Why are there significant positive correlations between school size and principal leadership self-efficacy in "faculty staffing and professional development," "collaborative leadership practices," and "involving families and the community" but not the other four recommendation areas and not the overall sense of leadership self-efficacy?

- In regard to the percentage of students receiving free or reduced lunch, why is there only one area of principal leadership self-efficacy ("faculty staffing and professional development") with a significant (and positive) correlation?

- Why are there no significant correlations between either school size or size of teaching faculty and perceived implementation, yet there are significant negative correlations between the percentage of students receiving free or reduced lunch and the perceived implementation of "health school environment" and "involving parents and the community" recommendations?

- In regard to principal age, number of years in current principalship, and total and middle-level experience, why are there only significant (and positive) correlations between principal age and principal leadership self-efficacy in "faculty staffing and professional development," "organizational practices for relationships," and "overall implementation of middle level practices"?

- Finally, why are there *no* significant relationships between principal age, years in current principalship, total and middle-level educational experience and implementation levels of *any* of the seven recommendation areas, as well as the overall implementation level?

In designing this study, the researcher was very interested in specifically determining how middle level principals developed, through their educational preparation, career experiences, and professional development, a sense of leadership self-efficacy (Bandura, 1997) specific to the implementation of middle level practices as explicated in *Turning Points 2000* (Jackson & Davis, 2000). The preliminary analyses—as well as the questions posed above—might seem disappointing at first glance; there don't seem to be any important (or at least consistent) relationships between the measures principal characteristics (e.g., age and experience), principal self-efficacy, and implementation of middle level recommendations. However, further reflection upon Bandura's model of the development of self-efficacy may provide clues that will help explain these results. Bandura's model of triadic reciprocal causation asserts that it is the interaction of behavior, internal personal factors, and the environment that is important. The first two phases of this study—primarily the collection of principal leadership self-efficacy ratings and teacher-perceived implementation scores—merely sets the table for examining how middle level principals have both experienced and reflected upon academic, career, and developmental experiences in order to create their present levels of middle level leadership self-efficacy.

Stated another way, the very *lack* of overall and consistent relationships among principal characteristics, leadership self-efficacy, and middle level recommendation implementation may be the key to formulating guiding questions for the interview phase of the study—the phase in which participating principals will be asked to both recount and reflect upon the academic, career, and developmental experiences that have led to their present sense of middle level leadership self-efficacy. These preliminary analyses, then, mean that the researcher will need carefully investigate during the interview phase of the study the following issues, among others:

- How have middle level principals navigated through various academic, career, and developmental experiences to arrive in their current principalships as well as their sense of leadership self-efficacy?

- To what degree have middle level principals reflected actively upon their prior experiences to develop leadership self-efficacy?

- How do levels of principal age, educational experience, and middle level experience relate to leadership self-efficacy? Is gender a possible factor here as well?

- Having developed a sense of leadership self-efficacy in relation to middle level reform recommendations, how do principals exercise leadership behaviors in order to bring about middle level reform in their buildings?

- How do the results of those leadership efforts, in turn, affect the principals' sense of leadership self-efficacy in relationship to middle level reform?

- Why do principals develop levels of leadership self-efficacy that vary among the seven recommendation areas of *Turning Points 2000*? Do age, gender, total educational and middle level-specific experience contribute to these variations?

- In the opinion of the participating principals themselves, how important is their sense of middle level leadership self-efficacy in relation to the implementation of middle level reform in their schools?

- Is there, in fact, a *specifically* middle level principalship about which we can develop knowledge and recommendations in order to facilitate the furtherance of middle level reform? If so, upon what can we legitimately base that knowledge and those recommendations?

Conclusion

This paper has shared the preliminary results of a study, still in progress, designed to begin the investigation of principal leadership specific to middle level education. To this point in the investigation, the primarily quantitative results have led to the development of further questions that must be investigated qualitatively. The upcoming interviews of principals will be designed to probe, in depth, the relationships among their experiences, their sense of self-efficacy specific to the middle level principalship, and the practices in which they engage to bring about middle level reform in their schools. It is hoped that the final phase will provide at least some preliminary answers to the question of middle level principal self-efficacy and, perhaps more importantly, significant new questions that will guide further, more intricate explorations into this area of inquiry.

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